



DT15 Rec'd PCT/PTO JUN 26 2002

\$ PCT

PATENT

Attorney Docket No. 206008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Art Unit: 2821

SAUNDERS et al.

Examiner: James C. Clinger

Application No. 09/622,382

Date of Mailing of "Notice of Allowance
and Base Issue Fee Due": March 26, 2002

Filed: January 12, 2001

Confirmation No.: 3527

For: ADAPTIVE MULTIFILAR
ANTENNA

REQUEST FOR CORRECTION OF TITLE OF INVENTION
(ACCOMPANYING ISSUE FEE PAYMENT)

Commissioner for Patents
Box Issue Fee
Washington, D.C. 20231

07/01/2002 GFREY1 00000143 09622382
01 FC:141 1280.00 OP

Dear Sir:

The correct title for the subject application, as set forth above, is "Adaptive Multifilar Antenna." This is the title set forth in the Transmittal Letter to the United States Designated/Elected Office Concerning Filing Under 35 USC 371 (Att. A). Applicants have used that same title throughout. However, the Formal Notice of Allowance and Fee(s) Due form incorrectly identifies the title as "Dual-Band Octafilar Helix Antenna" (Att. B).

In reviewing the file, it was noted that this error occurred at the time of issuance of the Official Filing Receipt (Att. C.). Also, it appears that the incorrect title is the same title as one of the citations listed in the International Search Report on the underlying PCT application, specifically WO 97/11507 (Att. D).

It is accordingly requested that the subject application issue as a patent with the correct title. In this regard, the accompanying Issue Fee form has been modified to incorporate the correct title. In advance, prompt consideration of this request is appreciated.

RECEIVED

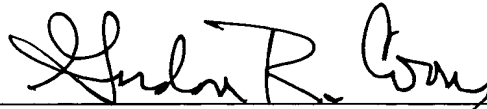
JUL -8 2002

MAIL ROOM

In re Appln. of SAUNDERS et al.
Application No. 09/622,382

Should any issues remain, the Examiner is invited to telephone the undersigned attorney at the number shown below.

Respectfully submitted,



Gordon R. Coons, Reg. No. 20821
One of the Attorneys for Applicant(s)
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson
Chicago, Illinois 60601-6780
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

Date: June 20, 2002

In re Appln. of SAUNDERS et al.
Application No. 09/622,382

CERTIFICATE OF MAILING

I hereby certify that this REQUEST FOR CORRECTION OF TITLE OF INVENTION (ACCOMPANYING ISSUE FEE PAYMENT) (along with any documents referred to as attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231.

Date:

6/20/02

Jefferson R. Coons

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NO.
206008

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371**

U.S. APPLICATION NO.

INTERNATIONAL APPLICATION NO.

PCT/GB99/00469

INTERNATIONAL FILING DATE

15 February 1999

PRIORITY DATE CLAIMED

16 February 1998

TITLE OF INVENTION

ADAPTIVE MULTIFILAR ANTENNA

APPLICANT(S) FOR DO/EO/US

SAUNDERS, Simon Reza, and AGIUS, Andreas

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This express request to begin national examination procedures (35 U.S.C. 371(f)) now rather than delay examination until the expiration of the applicable time limit set forth in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☐ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendment to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A copy or translation of the Amendments made by the Applicant during PCT Chapter II, which are attached as Annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 17 below concern other document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☐ A verified small entity statement.
17. ☐ Other items or information:

EL303750151US

ATTACHMENT A



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

Carol H.

206008

NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

03/26/2002

Leydig Voit & Mayer
Two Prudential Plaza Suite 4900
180 North Stetson
Chicago, IL 60601-6780

LEYDIG VOIT & MAYER
RECEIVED

APR 03 2002

PAT/TEM Due Date

6-26-02
FINAL

EXAMINER	
CLINGER, JAMES C	
ART UNIT	CLASS-SUBCLASS
2821	343-895000

DATE MAILED: 03/26/2002

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,382	01/12/2001	Simon Reza Saunders	206008	3527

TITLE OF INVENTION: DUAL-BAND OCTAFILAR HELIX ANTENNA

TOTAL CLAIMS	APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
22	nonprovisional	NO	\$1280	\$0	\$1280	06/26/2002

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above. If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

B. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status.
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

LAH

CMC

ATTACHMENT B



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/622,382	01/12/2001	2821	1136	206008	21	20	2

FILING RECEIPT



OC000000005726685

Leydig Voit & Mayer
Two Prudential Plaza Suite 4900
180 North Stetson
Chicago, IL 60601-6780

Date Mailed: 02/01/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

LEYDIG, VOIT & MAYER
RECEIVED

FEB 06 2001

PAT/TM Due Date

Applicant(s)

Simon Reza Saunders, Ash, UNITED KINGDOM;
Andreas-Albertos Agius, Patras, GREECE;

Continuing Data as Claimed by Applicant

THIS APPLICATION IS A 371 OF PCT/GB99/00469 02/15/1999

Foreign Applications

UNITED KINGDOM 9803273 02/16/1998

If Required, Foreign Filing License Granted 02/01/2001

Title

Dual-band octafilar helix antenna

Preliminary Class

343

Data entry by : NGUYEN, SON

Team : OIPE

Date: 02/01/2001



LEH

ATTACHMENT C

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 15/W32271W0	FOR FURTHER ACTION <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. PCT/GB 99/ 00469	International filing date (day/month/year) 15/02/1999	(Earliest) Priority Date (day/month/year) 16/02/1998
Applicant UNIVERSITY OF SURREY et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

2

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/00469

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 6 H01Q11/08 H01Q5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 6 H01Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 11507 A (QUALCOMM INC) 27 March 1997	1-5, 14, 16, 17, 22, 23
A	see page 2, line 19 - page 4, line 7 ---	6-21
X	US 5 606 332 A (DARDEN IV WILLIAM H ET AL) 25 February 1997	1, 3, 14-18, 23
A	see column 1, line 39 - column 2, line 56 see column 3, line 41 - line 56 ---	2-22
X	US 5 600 341 A (KURBY CHRISTOPHER N ET AL) 4 February 1997	1, 3, 14-18, 23
A	see column 1, line 39 - column 3, line 14 ---	2-22
A	EP 0 767 508 A (NOKIA MOBILE PHONES LTD) 9 April 1997 see column 3, line 43 - column 5, line 5 -----	1-23

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

26 May 1999

Date of mailing of the international search report

02/06/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Wattiaux, V

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 99/00469

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9711507 A	27-03-1997	US 5828348 A AU 7368396 A BR 9606654 A CN 1165588 A EP 0793864 A FI 971686 A JP 10509577 T	27-10-1998 09-04-1997 30-09-1997 19-11-1997 10-09-1997 23-06-1997 14-09-1998
US 5606332 A	25-02-1997	BR 9603473 A CN 1147160 A GB 2304463 A IT RM960576 A JP 9186522 A	12-05-1998 09-04-1997 19-03-1997 12-02-1998 15-07-1997
US 5600341 A	04-02-1997	BR 9603471 A CN 1147161 A GB 2304462 A IT RM960575 A JP 9107237 A	12-05-1998 09-04-1997 19-03-1997 12-02-1998 22-04-1997
EP 0767508 A	09-04-1997	GB 2306056 A JP 9130288 A	23-04-1997 16-05-1997

PCTWORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification⁶ :

H01Q 11/08, 5/00

A1

(11) International Publication Number:

WO 97/11507

(43) International Publication Date:

27 March 1997 (27.03.97)

(21) International Application Number: PCT/US96/15196

(22) International Filing Date: 23 September 1996 (23.09.96)

(30) Priority Data:
532,921 22 September 1995 (22.09.95) US

(71) Applicant: QUALCOMM INCORPORATED [US/US]; 6455 Lusk Boulevard, San Diego, CA 92121 (US).

(72) Inventors: TASSOUDJI, Mohammad, Ali; 5240 Fiore Terrace #202, San Diego, CA 92122 (US). THOMPSON, James, H.; 7523 Brava Street, Carlsbad, CA 92009 (US). STANDKE, Randolph, E.; 13283 Boomer Court, San Diego, CA 92129 (US).

(74) Agents: MILLER, Russell, B. et al.; Qualcomm Incorporated, 6455 Lusk Boulevard, San Diego, CA 92121 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published*With international search report.**Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.*

(54) Title: DUAL-BAND OCTAFILAR HELIX ANTENNA

(57) Abstract

A dual-band octafilar helix antenna (100) operational at two frequencies, while maintaining a relatively small package size. The dual-band octafilar antenna (100) is manufactured by disposing radiators (104, 1304, 2304, 2306) and a feed network (308, 1308, 2308, 2310) onto a flexible substrate (108, 2400) and forming the substrate into a cylindrical shape to obtain the helical configuration. The dual-band octafilar helix antenna (100) includes four active radiators (104, 2304) which are matched to a first frequency and disposed on a radiator portion (204) of the flexible substrate (108). Four additional radiators (1304, 2306), which may be either passive or active radiators, are matched to a second frequency, are also disposed on the radiator portion (204) of the substrate (108, 2400) and interleaved with the active radiators (104, 2304). At least one feed network (308, 1308, 2308, 2310) is provided on a feed portion (208) of the substrate (108, 2400) that provides 0°, 90°, 180°, and 270° signals to active radiators (104, 2304). The sets of radiators (104, 1304, 2304, 2306) and associated feed networks (308, 1308, 2308, 2310) may be formed on opposing sides of a single substrate (108, 2400) or on spaced-apart layers (2500, 2502) in a multi-layered support substrate design.

